

a selection circuit to activate at least one of the plurality of transducers to compensate for the position and orientation of the first unit relative to the plurality of transducers of the second unit.

119. (New) A communication system as in claim 118, wherein the selection circuit activates one of the plurality of transducers having a greatest amplitude of the received first magnetic field.
120. (New) A communication system as in claim 118, wherein the selection circuit activates two of the plurality of transducers having a greatest amplitude of the received first magnetic field.
121. (New) A communication system as in claim 118 further comprising:
at least one phase adjusting circuit that is used to adjust phases of electronic signals generated by the plurality of transducers that receive the first magnetic field.
122. (New) A method as in claim 18 wherein adjusting the phase of at least one of the electronic signals substantially aligns the electronic signals with each other.

REMARKS

Claims 1-53 and 87-117 are pending in the application. Claims 1-7, 20-41, and 99-117 are allowed. Claims 8, 11, 14, 15, 42-53, and 87-98 were rejected. Claims 9, 10, 12, 13, and 16-19 were objected to as depending from a rejected claim. Claim 8 is cancelled. Claims 9, 11-12, and 14-18 are being amended. Claims 118-122 have been added. No new matter is being introduced.

Claim 18 has been amended and is now rewritten in independent form. Amended Claim 18 includes all of the limitations of base Claim 8, except the limitation

“to substantially align the electronic signals with each other” has been deleted. The Applicants do not believe that this limitation is necessary to the allowability of the claim. Accordingly, Claim 18 should now be in condition for allowance.

Dependent Claims 9, 11-12, 14-17 have been amended to depend from Claim 18.

Rejections under 35 U.S.C. § 102

Claims 8, 11, 14, and 15 were rejected under 35 U.S.C. § 102(e) as being anticipated by Matsunaga et al. (U.S. Patent 5,457,386). For reasons discussed above, the Applicants respectfully submit the rejections under 35 U.S.C. § 102(e) are now moot.

Claims 42-53 and 87-98 were rejected under 35 U.S.C. § 102(b) as being anticipated by Giunta (U.S. Patent 4,967,695). Giunta teaches a system for controlling the movement of an animal (e.g., pet dog) relative to an area, such as to provide an “electric fence.” As discussed at least in the abstract and shown in Figs. 1 and 2 of Giunta, the Giunta system includes a signal transmitter having a transmitting antenna associated with the area for producing a signal. A loop of wire serves as the transmitting antenna and defines the boundary of the area. An electronic receiver carried by the animal is responsive to the signal for producing a control output, such as an annoying tone or an electric shock, to the animal whenever the animal moves into the vicinity of the transmitting antenna.

The electronic receiver has first and second orthogonal receiving antennas for receiving the signal produced by the wire loop antenna. Each antenna receives a respective component of the transmitted signal. Selection circuitry selects which of the respective components has greater magnitude. Control circuitry continuously responds to the receiving antenna having the better reception to produce the animal control output.

Giunta, however, does not teach a bi-directional communication system, as taught by the Applicants and recited in Claim 42 as originally filed. Specifically, Claim

42 recites “receiving an inductive input signal . . . [and] generating an inductive output signal . . .”.

Moreover, while Giunta teaches an animal control output based on the component having greater magnitude as received by the first and second orthogonal receiving antennas, that animal control output is electrical or audio, which are representations without physical orientation to the receivers. This is different from the orientation of the Applicants’ output signal as recited in the last two lines of Claim 42, “an inductive output signal from a transmitter oriented along a similar axis as the receiver that produces the strongest electronic signal.”

Accordingly, because Giunta does not teach all the claim limitations of Claim 42, the Applicants respectfully submit that the rejection under 35 U.S.C. § 102(b) is improper and should be withdrawn.

Because originally filed Claims 43-53 depend from Claim 42, these claims should be allowable for at least the same reasons.

Claim 87 as originally filed includes similar claim limitations as Claim 42, namely “multiple . . . receivers, each of which receives an inductive input signal . . . [and] a driver circuit that generates an inductive output signal.” Accordingly, Claim 87 should also be allowable under 35 U.S.C. § 102(b) over Giunta.

Because Claims 88-98 depend from Claim 87, these claims should be allowable for at least the same reasons.

New Claims 118-121 are similar to Claims 114-117 and should be allowable for similar reasons.

New Claim 122 depends from Claim 18 and includes the deleted limitation discussed above. This claim should be allowed for at least the same reasons as Claim 18.

CONCLUSION

In view of the above amendments and remarks, it is believed that all now pending claims (Claims 1-7, 9-53 and 87-122) are in conditions for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

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MARKED UP VERSION OF AMENDMENTSClaim Amendments Under 37 C.F.R. § 1.121(1)(ii)

What is claimed is:

8. CANCELLED
9. (Amended) A method as in claim [8] 18 further comprising:
multiplexing each of the electronic signals to an error amplifier circuit
and generating corresponding phase adjustment signals to align the electronic
signals.
11. (Amended) A method as in claim [8] 18, wherein the receivers include
inductive transducer devices.
12. (Amended) A method as in claim [8] 18 further comprising:
adjusting a polarity of one or more of the electronic signals so that the
electronic signals have the same sign and sum to produce a larger output signal.
14. (Amended) A method as in claim [8] 18, wherein the inductive input signal
includes information modulated on a carrier frequency signal.
15. (Amended) A method as in claim [8] 18, wherein the uniquely oriented
receivers are orthogonally disposed to each other.
16. (Amended) A method as in claim [8] 18 further comprising:
comparing a phase of each of the electronic signals with a common
reference signal; and
controlling a local oscillator in a corresponding phase shifter to align the
phase of each electronic signal with the reference signal.

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17. (Amended) A method as in claim [8] 18 further comprising:
generating an error signal that is used to adjust a phase of at least one electronic signal relative to a reference signal.
18. (Amended) [A method as in Claim 8 further comprising:]A method for communicating, the method comprising the steps of:
receiving an inductive input signal on each of multiple uniquely oriented receivers;
generating an electronic signal corresponding to the received inductive input signal for each of the receivers;
compensating for a relative motion of the receivers with respect to the inductive input signal by adjusting a phase of at least one of the electronic signals [to compensate for a relative motion of the receivers with respect to the inductive input signal]; and
summing the aligned electronic signals to produce an output signal that corresponds to the inductive input signal.